

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A VCSEL wafer-oxidation system comprising:
a stage having a surface;
a VCSEL supported on said stage and having an Al-containing layer to be formed into an oxidized current confinement layer;
a material mounted on said stage, wherein said material has a thermal conductivity of at least about 100 watts/K/meter; and
an oxidizing system operable to selectively oxidize said Al-containing layer ~~semiconductor material in said wafer~~ to form a current confinement structure in said semiconductor material.
2. (Original) The system of Claim 1, wherein said thermally conductive material consists essentially of graphite.
3. (Original) The system of Claim 2, wherein said thermally conductive material has a thickness of approximately one millimeter.
4. (Original) The system of Claim 1, wherein said thermally conductive material consists essentially of copper.
5. (Original) The system of Claim 1, wherein said thermally conductive material consists essentially of silicon carbide.
6. (Original) The system of Claim 1, wherein said thermally conductive material comprises a silicon substrate coated with graphite, copper or silicon carbide.
7. (Currently Amended) A wafer oxidation system for selectively oxidizing an Aluminum containing semiconductor layer of a ~~semiconductor wafer~~ VCSEL to create a current confinement structure, the system comprising:
~~an oxidation reactor comprising~~ a wafer stage having a top surface with a thermal conductivity of at least 100 watts/K/meter

a VCSEL, ~~wherein said semiconductor wafer is supported by said top surface of~~
~~said wafer stage; and~~

~~, whereby said an~~ oxidation reactor is operable to selectively oxidize said
Aluminum containing layer to create an Aluminum oxidized area and an Aluminum non-
oxidized area such that said Aluminum oxidized area is substantially uniformly disposed
around the perimeter of said Aluminum non-oxidized area.

8-27 (Cancelled)

28. (Currently Amended) A VCSEL ~~wafer~~ oxidation system comprising:

an oxidation reactor;

and

a wafer stage rotatably received ~~therein in~~ said oxidation reactor ~~and having a top~~
~~surface for mounting thereon an object wafer, said wafer stage having and~~ a heater
therein;

~~and mounting thereon a~~ heat conductive disk mounted on said wafer stage having
a diameter larger than a diameter of the ~~object wafer~~ VCSEL, said heat conductive disk
having a thermal conductivity equal to or higher than 100 watts/K/meter and being
sandwiched between said ~~object wafer~~ VCSEL and said top surface; and

a VCSEL supported by said heat conductive disk.

29. (Original) The wafer oxidation system as defined in claim 28, wherein said
heat conductive disk includes graphite, silicon carbide, copper or silicon as a main component
thereof.

30. (Currentlty Amended) A ~~wafer~~ VCSEL oxidation system comprising:

an oxidation reactor, and

a wafer stage rotatably received therein;

~~and having a top surface for mounting thereon an~~ VCSEL ~~object wafer mounted~~
on said wafer stage, -wherein said wafer stage having comprises a heater therein and a;
said top surface having a thermal conductivity equal to or higher than 100 watts/K/meter.

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31. (Original) The wafer oxidation system as defined in claim 30, wherein said top surface includes graphite, silicon carbide, copper or silicon as a main component thereof.

32. (Cancelled)